



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,375	02/17/2004	Michael Eugene Broach	50019.261US11/P05695P01	1831
23552	7590	09/06/2005		
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER HOLLINGTON, JERMELE M	
			ART UNIT	PAPER NUMBER
			2829	
DATE MAILED: 09/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/780,375

Applicant(s)

BROACH ET AL.

Examiner

Jermele M. Hollington

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 1-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on July 29, 2005.

2. Applicant's election with traverse of Invention III, claims 16-20, in the reply filed on July 29, 2005 is acknowledged. The traversal is on the ground(s) that "the subject matter that is identified by groups I and II (claims 1-15) are common with the subject matter that is identified by group III (claims 16-20). This is not found persuasive because subcombinations are distinct from each other and has separate utility such as Invention I uses divider block and a ramp generator, Invention II uses a capacitor circuit and Invention III uses means for measuring a parameter that is associated with an inductor. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hobrecht (6177787).

Regarding claim 16, Hobrecht disclose [see Figs. 3-4] a method for adjusting slope compensation (slope compensation circuit 200 in Fig. 2) in a switching regulator (output stage 300) includes an inductor (inductor 338), the method comprising: measuring a parameter (referring to current) associated with the inductor (338); providing a measurement signal [via control circuit 304] that is associated with the measured parameter; adjusting a slope [shown in Fig. 5] associated with a ramp signal in response to the measurement signal; and compensating a response associated with a control loop in the switching regulator with the ramp signal such that the control loop is responsive to changes in inductor (338) current slope.

Regarding claim 17, Hobrecht disclose adjusting the slope [shown in Fig. 5] associated with the ramp signal comprises at least one of changing a capacitance value that is associated with a ramp generator, and changing a charging current that is associated with the ramp generator circuit, wherein the slope of the ramp signal is proportional to the ratio of the charging current to the capacitance value such that the slope of the ramp signal is responsive to the measurement signal.

Regarding claim 18, Hobrecht disclose further comprising: monitoring [via control circuit 304] a reference signal that is related to an output voltage of the switching regulator, dividing [voltage divider 345] the reference signal with the measurement signal to provide a ratio, and changing [via control circuit 304] the slope associated with the ramp signal in response to the ratio such that the slope of the ramp signal is responsive to the measurement signal and the output voltage.

Regarding claim 19, Hobrecht disclose [see Figs. 3-4] an apparatus for adjusting slope compensation (slope compensation 200 in Fig. 2) in a switching regulator (output stage 300) that

Art Unit: 2829

includes an inductor (inductor 338), the apparatus comprising a means for measuring (via current-sense resistor 340) a parameter [referring to current] that is associated with the inductor (338); a means (control circuit 304) for providing a measurement signal that is associated with the measured parameter, a means (control circuit 304) for adjusting a slope [shown in Fig. 5] that is associated with a ramp signal in response to the measurement signal; and a means (control circuit 304) for compensating a response that is associated with a control loop in the switching regulator (300) with the ramp signal such that the control loop is responsive to changes in inductor (338) current slope via the measurement signal.

Regarding claim 20, Hobrecht disclose further comprising: a means for monitoring [via voltage divider 345] a reference signal that is related to an output voltage (VOUT) of the switching regulator (300), a means (voltage divider 345) for dividing the reference signal with the measurement signal to provide a ratio, and a means (control circuit 304) for changing the slope that is associated with the ramp signal in response to the ratio such that the slope of the ramp signal is responsive to the measurement signal and the output voltage.

Conclusion

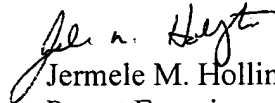
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zansky (4837495), Jordan (6522116) and Edwards (6611131) disclose a method and apparatus dealing with slope compensation circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:30 EST) First Friday Off.

Art Unit: 2829

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (517) 272-2034. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jermele M. Hollington
Patent Examiner
Art Unit 2829

JMH
September 2, 2005